



Profile of a computer science engineer

An engineer of Polytech Nantes who specialises in Computer Science with a concentration either in "Business Intelligence" (ID) or in "Information systems: software and networks" (SILR) is a generalist engineer who has a solid understanding of operational computerised business systems and tools.

The main function of engineers in Computer Science is to design strategic or operational information systems enabling them to realise the needs of companies and implement the computer solutions which have been developed. These solutions may include obtaining, transforming, storing, manipulating, communicating, visualising basic information and data generated on a daily basis by businesses (structured, semi-structured, textual and/or multimedia), as well as practical and strategic understanding - ensuring performance, reactivity, and long-lasting solutions for the enterprise. Skills in software engineering and project management allow one to analyse, conceive, develop and launch, in complete security, deliver and maintain applications or complex software tools that store and communicate information in databases, proprietary systems, servers, mobiles, etc. Managerial skills allow one to discuss with clients and their companies' departments, organise the work to be done by the development team, manage the budgets, and keep deadlines.

Course content

Each of the first 5 semesters corresponds to about 400 hours of training, over 16 weeks. The system also relies on a number of personal projects and assignments which require important individual efforts outside the classroom (200-300h/semester).

3rd Year				4th Year					
Semester 5			474	Semester 7		446	Semester 7		390
General education				General education common to both options					
English ¹	39	Sports ¹	21	English and a second language ¹		40	Sports ¹		21
Man, Business and Society ¹			72	Man, Business and Society ¹					66
Scientific and technical education				Scientific and technical education					
Introduction			64	ID Option		SILR Option			
Applied Mathematics			85	Knowledge based systems		46	Knowledge and information systems		79
Software Engineering			124	Mathematics of Decision-making		42	Networks, Telecommunications, Multimedia		74
Networks and Telecommunications			69	Man-machine communication		76	Software engineering		25
Semester 6			451	Databases and Data warehouses		70	Placement, projects		85
General education				Placement, projects		85			
English ¹	42	Sports ¹	21	Semester 8		413	Semester 8		466
Man, Business and Society ¹			67	General education common to both options					
Scientific and technical education				English and a second language ¹		39	Sports ¹		21
Applied Mathematics			85	ID Option		SILR Option			
Software engineering			96	Man, Business and Society ¹		57	Man, Business and Society ¹		38
Networks, Telecommunications, Interfaces			92	Scientific and technical education					
Data			48	Mathematics of Decision-making		24	Applied Mathematics		55
<i>¹These courses are provided in every engineering course of Polytech Nantes by the interdepartmental services of the school.</i>				Databases and Data warehouses		34	Software engineering		27
				Knowledge based systems		39	Networks, Telecommunications, Multimedia		87
				Placement, projects		199	Placement, projects		199

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KEY WORDS

- Databases and data warehouses
- Information systems
- Knowledge management and decision-making systems
- Software architecture
- Networks and systems
- Advanced Man-Machine Interactions
- Multimedia
- Digital content management



Chantrerie site, Nantes

Projects and Internships

3rd Year

Internship in a Business (minimum of 4 weeks)

4th Year

Internship in the Student Specialisation (6 to 15 weeks)

5th Year

End of study placement in a professional environment (4 to 6 months)

Students are required to complete at least one stay abroad during their studies.

Sectors and job opportunities

Examples of career paths

E.G. graduated in 1996 and is today Chief Information Officer (CIO) within a software company with about 2000 employees.

E.B graduated in 2000 and is a computer science expert in an international aide and development organisation.

E.L. graduated in 2001, obtained a Ph.D. in 2005, and is currently a researcher in a software start-up company in California.

N.G. graduated in 2003 and is the director of the research and development department in a business specialised in roaming collaborative work, a leader in France.

Business sectors

- Software and information technology services companies,
- Businesses specialised in networks and telecommunications, data management, games, and multimedia,
- Businesses in a variety of other industries: banking, insurance, logistics and transport, manufacturing, sales, food, health.